

AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently amended) A method for multiple object recognition on an image pixel plane of received images (1), said method comprising ~~the following steps:~~

(a) roughly classifying (10) all pixel points of said received images according to whether or not a pixel point is relevant for said multiple object recognition, according to a set of criterion related to a nonhomogeneous vicinity around each particular pixel point, to provide relevant pixel points and eliminate irrelevant pixel points from the relevant pixel points;

(b) forming a reduced image (11) based on said relevant pixel points as roughly classified in step (a);

(c) filtering (20) each reduced image (11) for forming at least two filtered images (21, 22, 23) whereby image components relevant for said multiple object recognition are retained in said at least two filtered images;

(d) further classifying (30) each pixel point of said at least two filtered images for providing classified images, wherein said further classifying is performed by a group of different classifiers which operate in accordance with learned rules to allocate, with

evaluation number, said classified images to different object classes, wherein each classifier of said group of different classifiers operates based on a characterizing vector of a respective filtered image forming ~~an~~ a direct input information for is respective classifier and wherein each different classifier works independently of any other classifier of said group of different classifiers;

(e) merging (40), for each pixel point, said classified images in accordance with an algorithm based on the evaluation numbers to perform a combined global evaluation for each class of said different object classes for providing merged images (41A, 41B, 41C); and

(f) deciding (50) for each pixel point, on the basis of said merged images, whether a pixel point of all remaining pixel points is still relevant and if so to which of said different object classes each relevant pixel point belongs.

2. (Currently amended) The method of claim 1, further comprising providing ~~a set of predetermined first criteria for performing said rough classifying step (a), and providing a second~~ a set of second predetermined criteria for performing said filtering step (c).

3. (Original) The method of claim 1, further comprising acquiring vicinity image data representing a vicinity of a respective relevant pixel point of a corresponding filtered image, and forming said characterizing vector from said vicinity image date.

4. (Currently amended) The method of claim 1, ~~further comprising~~

~~providing different weighting factors or evaluation numbers representing different classes of objects to be recognized, and assigning or~~ wherein the allocation with evaluation number of said classified images to different object classes comprises allocating certain ~~weighting factors or~~ evaluation numbers of said different weighting factors to each relevant pixel point thereby marking each relevant pixel point with regard to which of said different classes of objects the marked pixel point belongs.

5. (Original) The method of claim 3, wherein said step of acquiring said vicinity image data comprises sorting said vicinity image data in a spiral pattern into a vector of coefficients, applying a rapid Fourier transformation to said vector of coefficients to form transformation coefficients and forming said characterizing vectors of an absolute value of said transformation coefficients.

6. (Currently amended) The method of claim 1, further comprising using, as said group of different classifiers, a neural network capable of learning for performing said step of further classifying ~~(30)~~.

7. (Currently amended) The method of claim 6, further comprising selecting from relevant pixel points of said filtered images ~~(21, 22, 23)~~ characterizing or feature vectors representing features of said relevant pixel points of said rough classifying ~~(10)~~, and forming rules for said neural network from said characterizing or feature vectors.

8. (Currently amended) The method of claim 1, further comprising

performing said merging step in accordance with a statistical process for obtaining said global evaluation, and further comprising using in said statistical process information based at least on one of a type, position and content of said received images ~~(4)~~ to be evaluated.

9. (Currently amended) The method of claim 1, further comprising representing recognized objects by pixel clusters in an image ~~(54)~~ that represents a decision regarding said combined global evaluation while performing said deciding step ~~(50)~~.